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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/530,694	05/04/2000	Noriyuki Nakaoka	Q58984	3536

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EXAMINER

BERNATZ, KEVIN M

ART UNIT PAPER NUMBER

1773

DATE MAILED: 12/17/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

mk 6

Office Action Summary

Application No.

09/530,694

Applicant(s)

NAKAOKA ET AL.

Examiner

Kevin M Bernatz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 1-6 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Preliminary amendments to the specification, filed on September 4, 2000, have been entered in the above-identified application.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

3. 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: page 2, lines 19 – 22 and line 26 and page 5, lines 7 – 10 (where "of time" is unnecessary and should be removed for clarity).

Claim Objections

4. Claims 1 – 6 are objected to because of the following informalities: claim 1, line 6: insert "on" between "stacked" and "each"; claim 2, line 4: remove "of time"; claim 3, line 3: replace "an" with "a"; claim 4, line 6: remove "of time"; claim 5, line 2: insert a

space between "claim" and "1"; and claim 6, lines 6 and 7: insert "on" between "stacked" and "each" and insert "a" between "of" and "sheet". Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1 – 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "semi-hard" in claims 1 – 7 is a relative term which renders the claims indefinite. The term "semi-hard" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. While the examiner admits that the term is used in the art, the examiner deems that the exact scope encompassed by the term "semi-hard" is **not** clearly defined in the art and, as such, the use of the term in the claims should be avoided. This rejection can be overcome by deletion of the term "semi-hard" from the claims.

Claim 3 recites the limitation a further heat treatment, yet fails to indicate when applicant envisions the further heat treatment is to be performed (i.e. is it before or after the dividing and/or plastic working of the magnetic material).

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Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo (JP Patent No. 58-181823) in view of either Jha et al. (IDS reference U.S. Patent No. 5,156,923) or applicants' admissions.

Regarding claims 1 and 6, Endo discloses a method of producing a magnetic material, comprising the steps of: preparing a body of Fe and a non-magnetic Cu group metal as the main component thereof, heating the body and applying a cold plastic working to the body (Abstract and Constitution, wherein the examiner deems the "intermediate annealing" is applicants' dividing treatment and the secondary rolling is applicants cold plastic working). The limitation(s) "so that the layers "B" are subjected to a dividing treatment" is (an) intended use limitation(s) and is given little or no weight in terms of evaluating the prior art since it not further limiting in so far as the structure of the product is concerned. "[I]n apparatus, article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967);

In re Otto, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963). See MPEP § 2111.02.

Endo fails to disclose preparing a multi-layered body in which layers “A” each containing as the main component thereof Fe having magnetism and layers “B” each containing a non-magnetic Cu group metal as the main component thereof are stacked on each other.

However, both Jha et al. and applicants teach that a process for producing a composite body of different kinds of metals can be prepared in a method meeting applicants’ claimed limitations in order to form good metallurgical bonding, as well as to form discrete phases within a matrix for more uniform properties and mixing (applicants’ admissions, page 3, lines 11 – 18 and Jha et al., col. 2, lines 31 – 46).

It would therefore have been obvious to one of ordinary skill in the art at the time of the applicant’s invention to modify the device of Endo to include a multi-layered body meeting applicants’ claimed limitations as taught by both applicants and Jha et al. in order to produce a composite body of different kinds of metals possessing good metallurgical bonding as well as discrete phases within a matrix for more uniform properties and mixing.

Regarding claim 6, the examiner deems that the process taught by both applicants and Jha et al. would inherently produce layers that are provided “with a shape of a sheet partially divided”, especially given the teaching of Jha et al. that the taught process facilitates the formation of discrete phases within a matrix. The examiner further deems that both layers would meet the limitation “with a shape of a

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sheet partially divided" and that the split between which material becomes the matrix and which material becomes the discrete phases is (a) inherent to the materials and (b) based on the relative percentages of the materials. As such, since Fe is the major component in both applicants' invention and Endo, the examiner deems that the structure would be identical.

Regarding claim 7, applicants' admit that a magnetic marker meeting applicants' claimed limitations is old in the art in order to regulate magnetostrictive vibrations (page 1, line 19 bridging page 2, line 2).

9. Claims 2 – 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo in view of either Jha et al. or applicants' admissions as applied above, and further in view of Manning et al. (U.S. Patent No. 5,716,460).

Endo in view of either Jha et al. or applicants' admissions disclose the claimed invention as described above.

With regard to claim 2, Endo disclose a holding temperature meeting applicants' claimed limitation but fails to disclose a holding period.

However, Manning et al. teach a magnetic strip where an intermediate annealing step is performed for a holding period meeting applicants' claimed limitation in order to allow the alloy to fully homogenize (col. 2, line 64 bridging col. 3, line 15 and col. 4, lines 36 – 48).

It would therefore have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the device of Endo in view of either applicants'

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admissions or Jha et al. to use a holding period meeting applicants' claimed limitation as taught by Manning et al. in order to insure that the alloy is fully homogenized.

Regarding claims 3 and 4, Manning et al. disclose a second heat treatment meeting applicants' claimed temperature and period limitations in order to relax the structure and increase the magnetic properties (col. 5, lines 15 – 42).

Regarding claim 5, the examiner has interpreted this claim to be further limiting the "cold plastic working" step of claim 1, as opposed to an entirely separate step of cold working (though the examiner notes that it is clearly old in the art that cold working is done in several steps). Manning et al. teach two cold rolling steps wherein the final thickness meets applicants' claimed limitations in order to enhance the magnetic properties by elongating the magnetic grains (col. 4, lines 49 – 56 and col. 4, line 66 bridging col. 5, line 13).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nishimura et al. (JP Patent No. 06-100998) teach that it is old to form Fe-Cu magnetic alloys where Fe and Cu phases are "flat-sheet-like" layers (JPO Abstract). TOHM (JP Patent No. 58 – 187279) teach that it is known that Cu is not soluble in Fe (Derwent Abstract). Katsumata teaches intermediate annealing before cold drawing of a Fe-Cu alloy at a temperature meeting applicants' claimed range (JPO Abstract).

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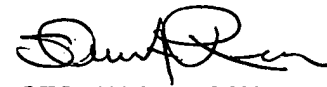
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M Bernatz whose telephone number is (703) 308-1737. The examiner can normally be reached on M-F, 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on (703) 308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-6078 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.



KMB
December 12, 2001



STEVAN A. RESAN
PRIMARY EXAMINER